COPENHAGEN CENTRE ON ENERGY EFFICIENCY
SE4ALL EE HUB

UNITED NATIONS
ECONOMIC COMMISION FOR EUROPE

SUSTAINABLE ENERGY FOR ALL

Best Policy Practices for Promoting Energy Efficiency

The webinar will start at 10:02 CET

10-11am 16 March 2016

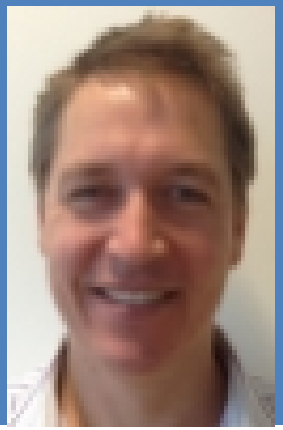
Best Policy Practices for Promoting Energy Efficiency

A structured framework of best practices in policies to promote energy efficiency for climate change mitigation and sustainable development

- *Investment Imperative for Energy Efficiency*
- *Identifying Best Practice Policy Options in Energy Efficiency*
- *Best Practices in Energy Efficiency: High Impact Policies and Measures*
- *Implementing the Menu: Developing Policy Implementation Capability*

Free Publication (English, French and Russian)
http://www.energyefficiencycentre.org/Publications
http://www.unece.org/index.php?id=41058

Speakers



Tim Farrell is a Senior Advisor at the Copenhagen Centre on Energy Efficiency helping countries to accelerate energy efficiency improvement, developing a knowledge management system and supporting global collaborations. Since November 2014, Tim has chaired UNECE's Group of Experts on Energy Efficiency. Prior to joining the Copenhagen Centre, Tim was implementing energy efficiency policies and programs in Australia, Southeast Asia and the Pacific.

Oleg Dzioubinski is the Energy Efficiency Programme Manager at the Sustainable Energy Division of the United Nations Economic Commission for Europe (UNECE) in Geneva since 2008. He contributed to a number of publications on promoting energy efficiency in the UNECE region and globally. He was instrumental in setting up the International Forum on Energy for Sustainable Development - an annual event organized by the UN Regional Commissions in cooperation with other partners since 2010.

Robert Tromop is an independent consultant, and until recently was Head of Energy Efficiency at the IEA. Key outputs included: the Energy Efficiency Market Report, Multiple Benefits of Energy Efficiency, Regional Energy Efficiency Policy Recommendations, Policy Pathways and sector-focused projects in buildings, appliances, industry and transport. Robert's previous role was Manager Monitoring and Research for the New Zealand Energy Efficiency & Conservation Authority (EECA).

Webinar Outline

Part 1. Key Attributes and Structured Framework – Tim Farrell

Part 2. Exemplars of Energy Efficiency – Oleg Dzioubinski

Part 3. Applying Best Practices on Energy Efficiency – Robert Tromop

Part 4. Questions and Answers

Part 1. Key Attributes and Structured Framework

Key attributes to identify best practice policies

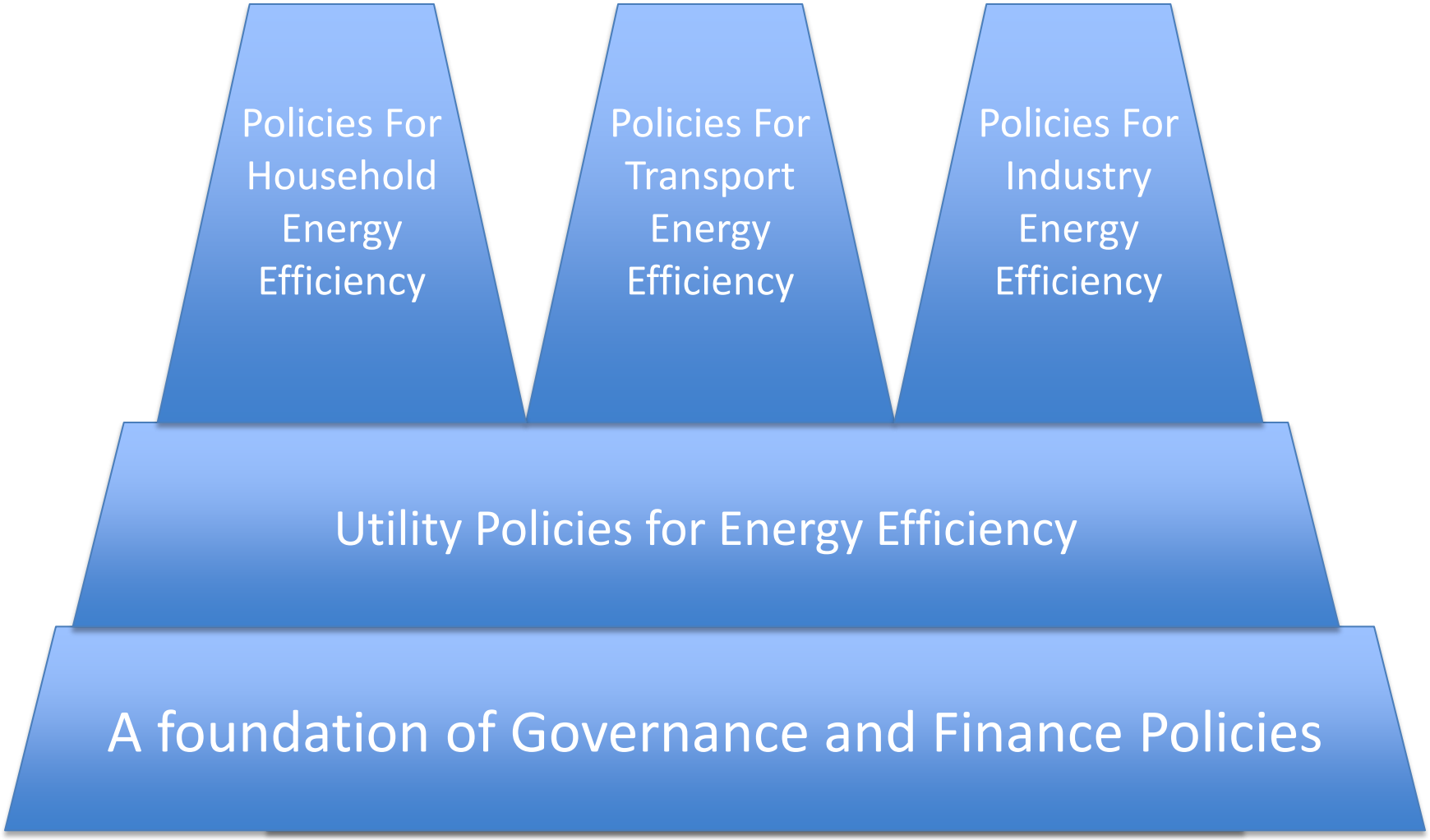
Best practice policies for energy efficiency will each have:

1. **Significant outcomes**. Demonstrated, quantifiable, ability to contribute to a large energy demand reduction and significant multiple benefits.
2. **Complementarity**. An easy fit with other national, regional and international efforts for ease of implementation and a supportive complementarity with other policies
3. **Political alignment**, governance and accountability attributes help ensure policies are politically palatable, likely to persist in multi-layer governance frameworks.
4. **Marketability and market impact** ensure policies will work in the global and local energy efficient technology markets, attractive to decision-makers, likely to attract finance.

Why identified policies are best practices?

- They have been through ongoing policy reviews,
- They have undergone improvement cycles,
- Recognised in international reviews,
- Evolved policies that have a ‘survival of the fittest’ track record.

A Structured Framework of Energy Efficiency Policies



A foundation of Governance and Finance Policies

Cross-sectoral: Governance

- Enabling frameworks
- National strategies, plans and targets
- Institutional arrangements:
- Energy efficiency operational agencies
- Coordination mechanisms
- Cities and Regions
- Data, statistics and evaluation

Cross-sectoral: Finance

- Government and leveraged loans finance
- Public-private finance from Energy Service Companies (ESCOs)
- Funds Guarantees, risk sharing
- Fiscal Policies: tax incentives rebates etc.
- Government grants
- International climate finance

Utility Policies for Energy Efficiency

Policies for Utilities to enable all sectors

- Utility cost-reflective pricing
- Energy efficiency regulatory mandates
- Utility ESCOs
- Utility white certificates
- Finance for utility energy efficiency
- Voluntary energy efficiency programs

Policies for Households

- Insulation, retrofits for existing homes
- MEPS and building codes
- Energy efficiency certification
- Appliance MEPS and labelling
- High efficiency appliance endorsement
- Efficient lighting

Transport Policies

- Fiscal policies for transport
- Passenger Light Duty Vehicle Fuel Economy Standards and Labeling
- Heavy Duty Vehicle Fuel Economy Standards
- Eco driving
- Public Transport and low energy modes

Business Sector Policies

- Energy management, ISO 50001
- Commercial Buildings
- Capacity building
- SMEs
- MEPS for industrial equipment
- Voluntary agreements
- Industry innovation

Part 2. Exemplars of Energy Efficiency

	Policy Selection Attributes			
	Significant economic energy demand reductions and significant multiple benefits	**Complementarity of policy / measure**	**Political alignment, governance and accountability attributes**	**Marketability and market impact**
Existing homes insulation / weatherization Includes a wide array of technology options: double glazing, draught sealing, insulation, heating and cooling options, shading, low emissivity coatings for 'cool roofs', lighting and appliance replacement and disposal etc.	Heating is 40% of household energy. Health benefits in programmes at up to 4:1 benefit-cost ratio significantly exceed energy cost reductions providing strong returns to government.	Energy efficiency polices can deliver a range of wellbeing, social and health outcomes, including addressing energy poverty.	Opportunity to offer direct social benefit. Can be used to redirect energy subsidies for improved social outcomes, and offers a delivery path for diverse government priorities.	Can develop new product and supplier activities as well as delivering diverse new services.

Netherlands. The government has committed EUR 150 million to a EUR 600 million revolving fund, EUR 400 million in grants for rental houses and funds for local government implementation of housing energy efficiency. The Voluntary Energy Saving agreement for the rental housing sector targets 1 million retrofits by 2020 with energy savings of 21 PJ. Energiesprong is a related market development programme working with owners, financiers and industry to refurbish 111,000 social housing units to near zero energy levels with a 30 year energy performance contract funded from long term energy savings. http://energiesprong.nl/transitionzero/

New Zealand Warm Up Heat Smart provided USD 300 million of grant-tiered targeted energy efficiency grants to households. The monetized benefits include health impacts and an overall programme benefit-cost ratio of 4:1. Over a 20-year period the programme delivers USD 1-1.5 billion in benefits, 99% of which are health benefits with reduced mortality accounting for 74% of benefits.

http://www.eeca.govt.nz/eeca-programmes-and-funding/programmes/homes/insulation-programme

PEEREA. Cogeneration and District Heating – Best Practices in Municipalities, addresses the role of local authorities in promoting cogeneration and district heating, which are used in many Energy Charter member countries but often not to their full potential. Successful programmes are contingent upon the capacity of local authorities to implement measures that meet local needs.

http://www.encharter.org/fileadmin/user_upload/document/Energy_Efficiency_-_Cogeneration_and_District_Heating_-_2006_-_ENG.pdf

Menu of Policy Options

Examples on Cross-sectoral Policies: Governance

- **National Strategies, Plans and Targets**
  - **Estonia NEEAP:** reasonably ambitious and effectively balanced. Focus on priority sectors and sound measures including finance options for upgrading older inefficient buildings.
- **Coordination Mechanisms**
  - **Switzerland SwissEnergy:** programme of cooperation and between the Swiss federal government and the regional (cantonal) governments. Cooperation is required as the Swiss constitution assigns to cantons responsibility for buildings efficiency while the federal government has jurisdiction over energy efficiency in vehicles and appliances.

Menu of Policy Options

Examples on Cross-sectoral Policies: Finance

- **Government funding, credit lines**
  - **Germany KfW:** The German "KfW programme" provides funding from the national government for deep renovation and construction of low energy buildings. Long-term, low-interest loans to the owners/investors supported with professional and independent energy advice. Amount: about EUR 2 billion per year.
  - **Thailand.** Energy Efficiency Revolving Fund (EERF) scheme introduced in 2002 provides public funded credit lines of between USD 2.5 million to USD 11 million to local banks at zero interest rates. As finance volumes grew, banks increasingly co-funded the loans. The initial EERF allocation was USD 60 million. By 2011 total leveraging of energy efficiency investments was USD 521 million from USD 236 million.

Menu of Policy Options

Examples on Cross-sectoral Policies: Utilities

- **Energy Efficiency Regulatory Mandates**
  - **United States.** In 2011 USD 7 billion was invested in ratepayer funded energy efficiency projects producing an estimated 117 TWh of energy reductions. In 2012, there were 25 states with energy efficiency resource standards and 9 states adopting other policies.
  - **Vermont, United States.** Recent analysis of Efficiency Vermont, the energy efficiency operator in Vermont, shows 110 GWh energy reductions over a ten year period at a cost of USD 35 million with a levelized cost of USD 39/MWh, but with multiple benefits to consumers totaling USD 105/MWh.

Menu of Policy Options

Examples on Sectoral Policies: Industry

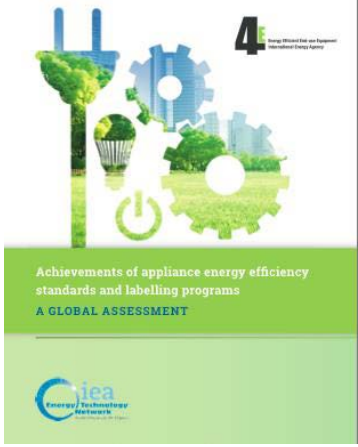
- **MEPS for industrial equipment**
  - **EU Eco-design Directive.** Four of the most energy intensive industrial products (electric motors, circulator pumps, fans and water pumps) are regulated to minimize energy costs and environmental impacts over their respective life cycles and will lead to energy demand reductions across the EU of 195 TWh by 2020. The policy has been accompanied by significant technology development and has initiated EU and global standardization processes.

Menu of Policy Options

Examples on Sectoral Policies: Transport

- **Passenger Light Duty Vehicle (LDV) Fuel Economy Standards (VFES) and Labelling**
  - **EU VFES.** New passenger cars must meet a weight based corporate fleet average CO_2 emission regulation of 130 g/km by 2015. The share of <130 g/km cars sold is already changing. For example, in Spain the share has gone from 30-40% of vehicle sales in 2005 to above 50% in 2012.

Energy Efficiency Standards and Labelling



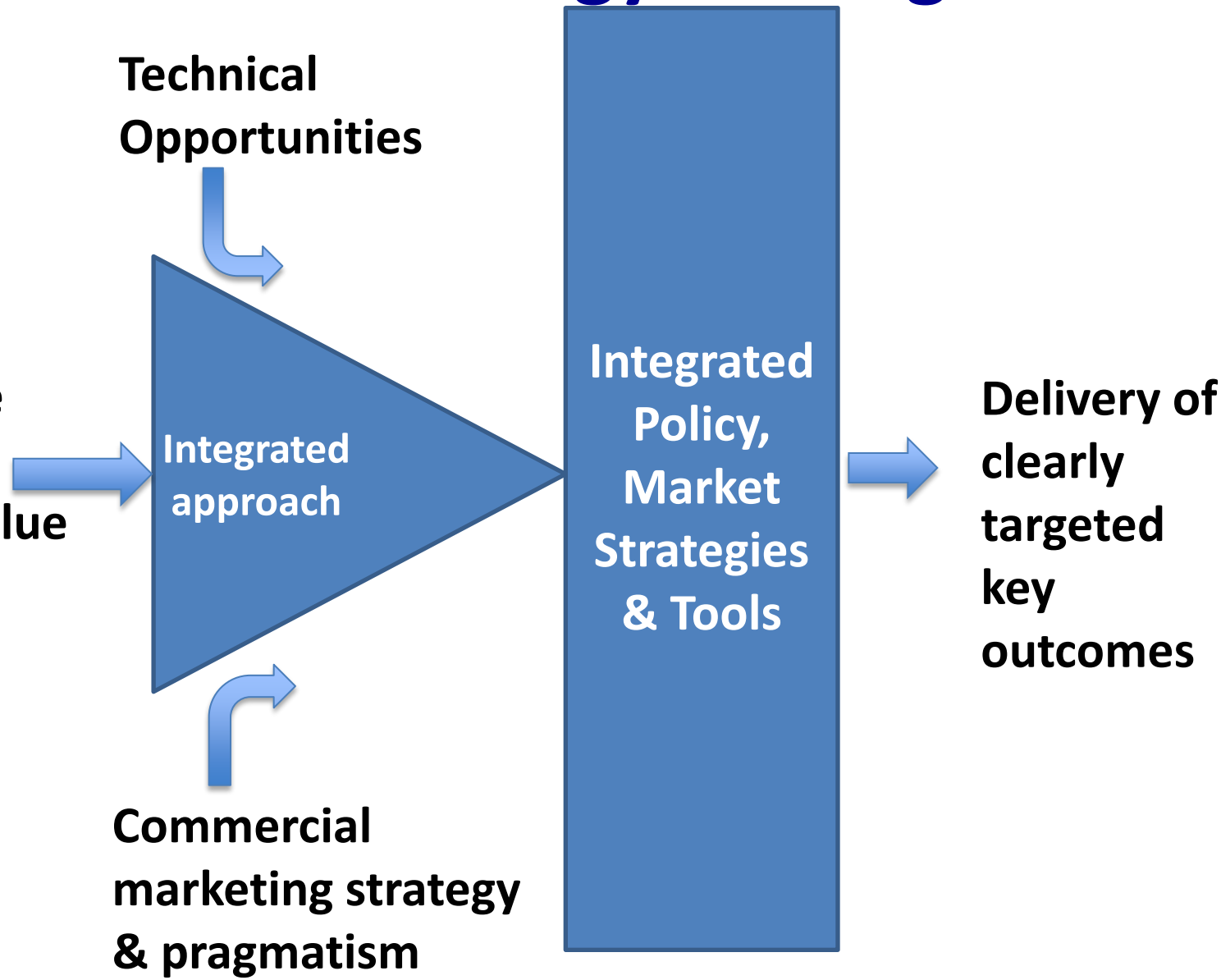
- Energy efficiency standards and labelling (EESL) programmes since the 1970s, from 80 countries, more than 50 different types of appliances and equipment
- “the cornerstone” of most national energy efficiency programmes
- Save 10% to 25% of national / sectoral energy consumption.
- Benefits outweighed the additional costs by at least 3 to 1
- Little long-term impact on appliance price trends
- EESL programs have been very successful in fostering innovation, expanding existing markets and opening up new market opportunities
- Multiple benefits; Enhanced employment: 800,000 direct jobs created by EESL programs in the EU, 340,000 jobs in the US.

Part 3. Applying Best Practices on Energy Efficiency

3A. Developing an integrated policy – market strategy

- Introduction: why do policies fail?
- what are characteristics of successful policy implementation?
- The critical role of marketing strategy.
- A clear understanding and definition of the outcome - and the scale to achieve this is critical.
- Don’t forget we are all ultimately trying to improve human welfare, not just reduce energy demand.

Policy – Market Strategy Paradigm™



Aligning EE policies with country priorities

- Identify your countries socio-economic priorities
- Why are these priorities, what holds these back?
- How can energy efficiency policies help?
- What steps will get commitment to these policies?

Energy Efficiency Strategy

National Strategies, Targets and Action plans realise ambition and commitment into actions.

- Should be shaped to national priorities and sector priorities,
- Public consultation helps sell the strategy,
- Targets set ambition, progress tracking,
- Action plans allocate accountabilities, enable resources…
- Review regularly, celebrate progress, update, extend…

3B. Marketing energy efficiency

- Practical lessons from effective energy efficiency marketing initiatives.
- What learnings can we take from commercial companies they have be in ***behavioural change*** for ages (sausages, soap, cars etc) – yet policy makers tend to limit themselves to "***behavioural science***" marketing approaches
- Discuss the marketing principles used by ENERGY STAR and other strong energy efficiency brands

Policy – Market Strategy Paradigm™

The Core Issue: The market doesn't value improved outcomes.

Consumers are indifferent:

- Unaware how good it could be,
- Lured to current imperfections
- Don't understand value,
- Don't value better options

Governments undervalue improved outcomes:

- Policy paradigms discount evidence based options
- Focus on budget not value
- Policy silos undervalue broader welfare outcomes
- Mis-perception that government must fund change

Industry favours stability over strategic

Open to market led change but resilent to change;

- Short term profit / investment focus
- Perceive exogenous change as a risk
- Oblivious to global changes trends and perturbations

Technical Imperatives

- Contribution of innovation and better technology undervalued
- Inadequate quality standards undermine consumer confidence

Integrated approach

Commercial pragmatism

- Government
- Industry
- Consumer end-users

Derived from effective commercial marketing research and techniques

Effective governance and strategies

Supportive operational policies and measures

Integrated Policy – Market Strategies & Tools

Finance

Utilities

Marketing strategies and engagement

Industry development

Evaluation

Clarity of Outcomes

What is the desired outcome?

Clearly targeted key outcomes

What does success look like?

- The overarching need to advance welfare is often overlooked

Integrated Policies, Market Strategies & Tools

Clarity about Strategy, Operational Tactics and Process

- Policy tools are often misperceived as the solution or process: e.g. an energy efficiency label project, communications programme, regulation, or grant.
- But they're only elements in a market transformation process

Policy Tool(s) work together within a **Strategy** to develop a **Market Transformation Process** to achieve a **desired Outcome**

- They are not the programme or process itself

Integrated Policies, Market Strategies & Tools

Accurate consumer research: values, motivations, behaviours.

- Consumer values shape consumer behaviours.
  - What do the various decision makers value, what drives their decisions?
  - Who or what do they align with?
  - How do they want to be perceived?
  - How will they really behave or react to your energy efficiency offer?
  - What would it take to convince the consumer to pay for the energy efficiency intervention?

Unless policy efforts **resonate with consumer values**, overcome entrenched indifference, **motivational inertia** and cut through behavioural barriers there is little scope for desired outcomes or market transformation.

Integrated Policies, Market Strategies & Tools

Marketing Strategy.

- It starts with very clear objectives (outcomes) which are measureable in customer/ consumer terms?
- This determines
  - the scale,
  - the time
  - the degree of effort to affect change
  - The audiences affected by this change and what is required to support/adopt the change

  And
  - the tactics to deliver to effect this change
  - Degree of integration of messages/channels to market and alignment with intermediaries/industry etc
- Aligns with “outcomes”

Integrated Marketing Strategy

Examples: effective energy efficiency marketing initiatives

ENERGY STAR

Voluntary measure complements mandatory

Stringencies adjust as industry responds

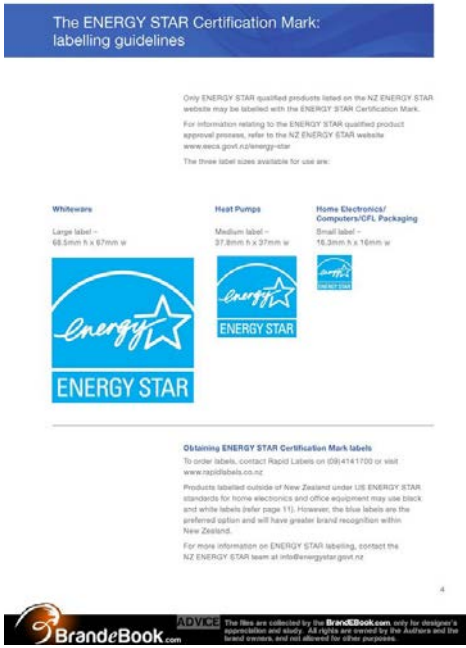
- Responsive to tech and market changes

Clear brand management

- encourages others to use brand with integrity

Global scale in global markets

- very hard to set up your own energy efficiency brand



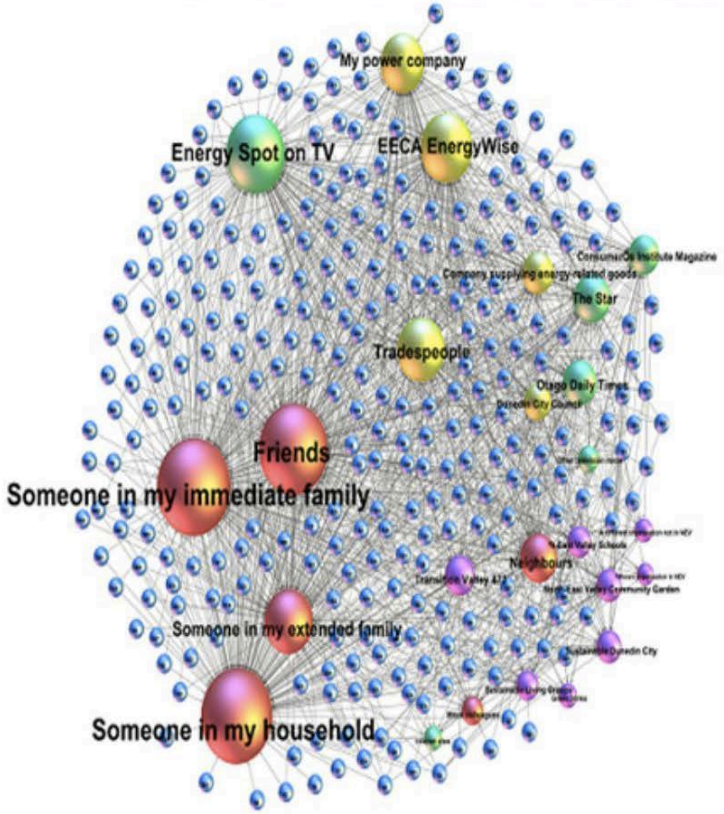
New Zealand's Most Energy Efficient Products

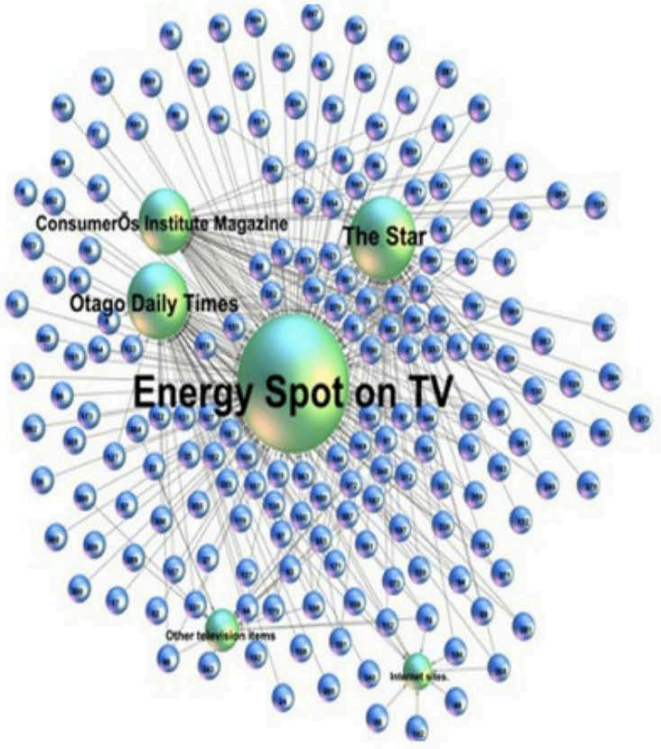
- 75% awareness amongst consumers
- Predisposition to upgrade increases overall by 22%, significantly higher at the margin (3 star MEPS level)
- Sales process still underplays the value of energy efficiency
- Energy efficiency engagement varies by product type
  - low involvement (Fridges / AC), high ENERGY STAR impact
  - high involvement products like TV, weak impact.
- Market share of ENERGY STAR grown beyond design 33% cf 25%. 66% share for ENERGY STAR A/Cs
- 3:1 private – government investment.

Getting energy efficiency messages to dominate consumer thinking

ENERYWISE and ENERGY SPOT credible information source

Word of mouth is crucial – Otago University Study





Key Lessons

- Commitment derived from relevant multiple benefit outcomes that serve socio-economic development priorities
- Promote value of energy efficiency to consumers – watch for an overt energy savings focus
- Motivate the development of energy efficiency supply chains
- Scale is important: motivate leveraged private sector finance and private sector marketing visibility
- Strategic marketing campaigns based on real single-minded issues
  - Avoid telling and selling, watch out for over-creativity
  - Credible - above all, make it real for consumers
- Be positive and constructive (what would motivate you?)
- Modelling and evaluation to see reality behind the obvious
- Monitor market developments and move with them
- Use commercial marketing models (successfully selling soap and sausages and changing behaviours for years)

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Send request: Oleg.Dzioubinski@unece.org

Examples of energy efficiency policy databases

http://www.iea.org/policiesandmeasures/energyefficiency/

http://www.odyssee-mure.eu/data-tools/

https://www.worldenergy.org/data/energy-efficiency-policies-and-measures/